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->From the Editor's Keyboard
"*****"

"Saying it like it is!"

We're in the middle of a series of heat waves here in the Northeast, with a second round of 90+ degree days underway. It looks like this current wave will last for 5-6 days! Other than an occasional (and brief) thunderstorm, there really hasn't been much relief with some much-needed rain. This past week, it was reported that my area is now considered to be under severe drought conditions. Just take a look at my lawn if you want to see some proof!

Speaking of heat, how about the heat in Cleveland this past week! The Republican National Convention wrapped up Thursday, and, from the little I was able to watch of it, was very interesting. No real surprises from what I could tell, but interesting nonetheless. I don't usually watch these events, but I was curious as to what the Trump supporters (and Trump) were going to say. It will be interesting next week to hear the "rebuttals" from the Clinton factions.

Although it's probably no surprise to anyone, I'm not a Hillary supporter. What little support I had for her, it was lost when she became Secretary of State. That role was totally political, with Obama naming her to the office as a consolation for her failed presidential bid earlier. She failed miserably in her role as Secretary of State. In many people's minds, she should be held accountable for her failures and cover-ups. And, the e-mail scandal isn't going to go away! And, supporting Hillary means another four years of Obama-supported policies and plans. I think that we've suffered enough!

Until next time...

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->In This Week's Gaming Section
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- Xbox One S To Launch in August!
Rise of The Tomb Raider PS4!
Details on Upcoming Neo Console!
And much more!

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->A-ONE's Game Console Industry News - The Latest Gaming News!

Xbox One S To Launch on August 2

Microsoft will kick off sales of its new Xbox One S starting Tuesday, August 2.

There is one catch. The Xbox One S will be available in three different capacities and price tags - a 500GB version for \$299, a 1TB version for \$349 and a 2TB version for \$399. However, only the 2TB version lifts off on August 2, Matt Lapsen, general manager for Xbox Devices Marketing, said in a blog post on Monday.

Microsoft will have more to share next week about the 1TB and 500GB Xbox One S consoles, which will launch later this year, a company spokeswoman said.

All three models are currently available for preorder through Microsoft, Best Buy, Amazon and GameStop. Anyone who preorders the 2TB version of the console will be able to grab it come August 2. You can also try walking into your local Microsoft, Best Buy or GameStop store. However, "availability is limited and demand is high," according to Lapsen, who advises preordering the console soon.

Microsoft has tried a number of tactics to boost Xbox One sales, including slashing the price, bundling free games and offering a Kinect-free version of the console. But the Xbox One S represents a new shift. The console is smaller, cheaper and throws in support for 4K Ultra-HD Blu-ray discs and 4K streaming services as a way to do battle with both gaming consoles and Blu-ray players.

By supporting 4K (3,820x2,160-pixel) resolution, the Xbox One S will display more vibrant colors and darker blacks. The higher resolution is reserved for movies and TVs and won't work with games, however, and you'll also need a 4K compatible TV.

Those of you who have a 4K TV and are looking for a 4K Blu-ray player may be tempted by the Xbox One S since you also get the option to play games. The new console also supports High Dynamic Range (HDR) for video and gaming, which means certain games will look better due to a higher contrast ratio.

The Xbox One S will initially arrive in Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, UK and the US. Other regions will get dubs on the new console later this year.

Rise of The Tomb Raider PS4 Release Date
Confirmed, Has PlayStation VR Support

Square Enix has announced Rise of the Tomb Raider will launch on PlayStation 4 on October 11 in a new 20 Year Celebration edition. This version of the game will feature "a completely new story chapter entitled Blood Ties."

In addition to this, it will have new co-op Endurance gameplay, PlayStation VR support for the new Blood Ties chapter, all previously released DLC, extra outfits, weapons and Expedition Cards. A limited-edition art book will also be included.

All this content will be available for free to Xbox One and PC to players who own the season pass. This, however, won't include VR support. The season pass will be updated to include this content going forward.

A season pass does not exist for PS4 as all the extra content is included in the new version of the game.

"[Crystal Dynamics] is celebrating with all Tomb Raider fans, thanking them for being on Lara's 20 year journey with us," said Scot Amos, co-head of the studio. "The team has packed in surprises, new story, and the top-requested special features into this 20 Year Celebration edition.

"Blood Ties, a new premium DLC, beckons players to explore Croft Manor in a new story mode; then defend it against a zombie invasion in Lara's Nightmare. When Lara's uncle contests ownership of the Manor, Lara must explore the estate to find proof that she is the rightful heir, or lose her birthright and father's secrets for good.

"Players can then test their zombie-killing skills in the replayable Lara's Nightmare mode: a haunted Croft Manor where players have new challenges and must rid the Manor of an evil presence."

According to a press release, the PlayStation VR support lets players "unlock the mysteries of Croft Manor in first-person, while the new co-op Endurance mode lets fans team up in the wilderness.

"Two players must team up to survive the harsh elements by day, as well as lethal threats from enemies by night. Fire takes fuel, food restores health, and every resource must be hunted, collected, or crafted. Battle to the top of the leaderboards, as others try to beat your longest survival run."

To celebrate the history of Tomb Raider, a re-envisioned version of the cold-weather outfit and the Hailstorm pistol Lara used in Tomb Raider 3 will be available in the mode. A classic Lara card pack will let players play as various iterations of the character from over the years, including the original Lara model that started it all in 1996.

Finally, the game will have a new Extreme Survivor difficulty: "This new difficulty level takes the toughness of Survivor and ratchets it up several notches starting with all checkpoints being stripped out of the game. The only way to save the game is forage enough resources to light campfires."

PlayStation 4: Leaked 42-Page Document Reveals Details on Upcoming Neo Console

The document contains hardware specs and tips for developers to optimize their games for playability at a 4K resolution, multiple reports say. Sony has not officially confirmed the console's specs.

The first important information is that all PlayStation 4 games set to release in October 2016 or later are required by Sony to support the new console as well as the basic one. Games optimized for the PlayStation 4 Neo are also expected to have higher and more stable frame rate, but we'll get back to that later.

Of course, with a new system the specifications are what everyone's eager to read about. According to this document (which also explains the budget split between the game and the PS4 system), the PlayStation 4 Neo will have a Jaguar CPU with 8 cores running at 2.1 GHz. The GPU will feature 36 Compute Units running at 911 MHz for a 2.3X improvement in Teraflops, while the memory will still be 8GB GDDR5 though the bandwidth will be higher at 218 GB/s.

Of course, there's no telling if these are the final specs or not.

However, Sony doesn't want developers to run the games at 1440P on 4K displays because there wouldn't be enough differentiation from the standard 1080P game on a regular HDTV. They're encouraging game creators to experiment with checkerboard rendering technique; if you're a regular WCCFTech reader, you might remember that we covered this topic when reporting Ubisoft's success with this technique in Rainbow Six Siege.

Of course, we don't have any way to know for sure if this document is legitimate. However, it certainly looks like it, though it seems to be about three months old. We'll update on this rumor in case we get more proof of its legitimacy or otherwise.

PS4 Leads US Console Sales in June 2016 NPDs

The NPD Group has released its monthly sales report for June 2016, and PS4 was once again the top-selling system in the United States during the month.

Sony confirmed with GameSpot that PS4 was the top-selling

console. Beyond that, it declined to offer its usual statement on the report for the third month in a row.

Microsoft did offer a statement, but it continues to focus on usage numbers rather than sales figures, as it said it planned to do.

Low code platforms are a big idea. But can they scale up to enterprise? Read what Forrester has to say for free.

"Following a monumental E3, in June 2016, gaming hours on Xbox One reached a new milestone with more than 1.2 billion hours logged, which more than doubles gaming hours at the same point in time last year and makes it the highest we've ever seen for the platform to date," said Xbox marketing boss Mike Nichols. "Looking ahead, there's so much more in store for our fans. We've received a strong response to the new, highly-anticipated Xbox One S, launching next month as the first and only console that lets you watch Blu-ray movies and stream video in stunning 4K Ultra HD with HDR.

"We also introduced new Xbox Live features like Xbox Play Anywhere launching this September, allowing you to buy your game once and play seamlessly across both Xbox One and Windows 10 PCs through Xbox Live. And we'll release a new system update this summer and another this holiday to make gaming on Xbox even better. With all that coupled with an unrivaled lineup of games coming later this year and next, we're steadfast in bringing the best gaming experiences to Xbox fans across Xbox One, Windows 10 and Xbox Live and are excited to launch new hardware and experiences."

Nintendo shared a statement with GameSpot regarding June's report. It focused almost exclusively on the performance of its games but did note that the "3DS family of systems started summer on a hot streak with an average weekly sales increase of 39 percent over May." It attributed this in part to the 2DS price drop to \$80, which happened on May 20.

Overall, hardware sales in the US dropped a dramatic 42 percent year-over-year, from \$313.1 million last June to \$181.5 million this year. NPD analyst Liam Callahan says this comes as a result of two things: a drop in unit sales (down 32 percent, perhaps in part because of new PS4 and Xbox hardware announcements) and a decline in average prices (down 15 percent). This is mostly due to a sales decline of 43 percent from eight-generation hardware, though these system still make up 87 percent of overall hardware spending. Handhelds combined to represent 11 percent.

"After 32 months since the launches of the PS4 and Xbox One, the combined cumulative hardware sales for these two consoles exceed the sales of their predecessors by 40 percent at the same point in their lifecycles," Callahan noted.

It's not just hardware on the decline, as both software (20 percent) and accessories (six percent) were also down in June compared with June 2015.

During May, PS4 was the top-selling console in the US as new hardware sales dropped 10 percent year-over-year to \$153.1

On the software side, Overwatch was the US' best-selling game in June.

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->A-ONE Gaming Online      -          Online Users Grow! & Purr!  
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We got a good, close look at the Nintendo PlayStation last year and even talked to Sony veteran Shuhei Yoshida about it, but have you ever wondered about everything inside the ill-fated game console? Ben Heckendorn, aka Ben Heck, is happy to show you. The homebrew gadget expert has conducted an extensive teardown of the cancelled system (the same one we saw, even) that shows exactly what it's made of. While it's evident that Sony had the largest role in the machine, this was very much a collaboration - you'll find a mix of both Nintendo and Sony chips in this prototype, on top of the occasional third-party component.

Ben also suspects that this PlayStation wouldn't have fared well even if Nintendo and Sony had put their differences aside. Although it would have had a much faster CD drive than the Sega CD (a whopping 2X!), it otherwise wouldn't have been any more powerful than the cartridge-only Super Nintendo. That would have put it on par with Sega's rival unit, or even slightly behind.

This isn't the end of it. Ben believes he knows enough that he might have a shot at repairing the console (the CD drive wasn't working when we saw it). If so, it raises the possibility that you'll witness a fully functional device before long. You might not ever see it play native CD titles, but it'll bring new life to an important part of video game history.

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The Coolest US Agency Is Starting A Revolution To Get Rid of Computer Viruses

In the world of computer security, the bad guys are always 10 steps ahead of the good guys. But next month the mad scientists at the government's Defense Advanced Research Projects Agency (DARPA) will bring together a group of the world's best computer security experts to see if they can tip the scales in the good guys' favor for once.

Dubbed the Cyber Grand Challenge (CGC), the event will determine if an autonomous program can hunt for security vulnerabilities that hackers can exploit to attack a computer, create a fix that patches that vulnerability and distribute that patch all without any human interference.

The idea here is to start a technology revolution, said DARPA program manager for the CGC, Mike Walker.

What does that mean for you? Well, if all goes well, the CGC could mean a future where you don't have to worry about viruses or hackers attacking your computer, smartphone or your other connected devices. At a national level, this technology could help prevent large-scale attacks against things like power plants, water supplies and air-traffic infrastructure. So much code, so little time

At this point, you're probably wondering why this is such a big deal. After all, your computer's anti-virus program finds and fixes security holes all the time, right?

Yes and no. It's true your own in-home anti-virus software can find security flaws and deal with them. But it takes real-live humans to design software to detect and fix those flaws.

Yes, people—albeit super smart people—are currently responsible for finding and fixing the security problems that make things like viruses and malware possible.

There are two ways companies can find security problems: proactively, that is, they actually search out flaws in operating systems or other programs; and reactively, where researchers learn about a security issue and get to work fixing it.

According to Walker, it takes security researchers an average of 312 days to discover security vulnerabilities in computer programs. During that time, hackers have the ability to do whatever they please with that flaw, whether that includes stealing Social Security information or breaking into your social media account. Even when security researchers actually know of a critical security flaw, Walker said, it takes up to 24 days to patch it.

Why does it take researchers so long to find and fix this stuff? Because the operating systems and programs you're reading this very article on are created using millions of lines of code. And a single mistake in that code can be used to attack a computer system. To say finding those flaws is akin to finding a needle in a haystack is an incredible understatement.

And just to bring everything full circle, that means the security software on your computer can only recognize and fix security issues it has been programmed with. So while your security

program may say you're protected, you're actually only shielded from the flaws security firms already know about.

You're still totally vulnerable to the untold number of flaws that have yet to be discovered.

That's where the CGC comes in. The event, Walker explains, is akin to DARPA's previous technology challenges including its famous self-driving car Grand Challenge, which began in 2004. Like that challenge, the CGC involves teams of researchers, students and programmers working to complete a specific goal.

In this case, the goal is to create a program that can sniff out software vulnerabilities, create a patch and implement it without any human intervention whatsoever. But the teams won't be playing together. Instead, they'll face off against each other in a form of digital capture the flag.

This isn't your typical capture the flag-style game, though. In the cyber security space, capture the flag is played with groups of computer experts broken down into different teams. Each team gets the same kind of computer with the same built-in security vulnerabilities.

It's the hackers and programmers' jobs to find those flaws on their own systems, patch them and then tell the game's referees the other teams might have the same flaw. If they're correct and the other teams didn't patch the error on their own systems, the reporting team gets a point.

It's far more complicated than it sounds, though. The players have to scour lines of code for potential flaws and then figure out how to address them. They then have to see if they can exploit those flaws to compromise the other players' systems. And they have to do all of this while trying to protect their own systems. So yeah, it's difficult.

With the CGC, though, they have to create software that can essentially do all of the above on its own. According to Walker, the participating teams' programs must be able to provide a proof of vulnerability in a system.

A proof of vulnerability system allows a program that a team has created to tell a DARPA referee that it can control the crashing process of an opponent's software. After making the claim to DARPA, the bot attempts to crash software on the remote system in a way consistent with its claim.

The concept for the challenge kicked off in 2014, when DARPA held a worldwide call for contestants. That year, the challenge, Walker explained, was for competitors to develop an automated system that could provide an input that could crash a test system.

Of the more than 100 teams that participated in the 2014 event only seven were up to the task including those with team names like ShellPhish, CodeJitsu and ForAllSecure. The CGC competition next month will be far more demanding.

A future without hackers?

The point of the CGC is to make the world of connected devices infinitely safer. Instead of taking nearly a year to find and repair software vulnerabilities, the kind of technologies these GCG competitors are creating could cut that time down to minutes or even seconds.

Imagine a hacker in the future sitting at a keyboard armed with an unknown flaw they just discovered, Walker posited. They connect to a computer, they break in, and then 30 seconds later their connection is cut. When they try to get into a computer using the same hack and it won't work.

That kind of speed and responsiveness could drastically improve computer security across the board.

But it will be quite some time before we see this kind of technology implemented at the consumer level. That's because the computer systems being used during the CGC are essentially super-computers worth thousands. That's because the calculations these systems are performing require an incredible amount of horsepower that you just can't find in your everyday computer.

It's difficult to think of this technology anywhere in the near term on anything but a super-computer, Walker explained. It could be used in the cloud, because there is an enormous amount of computing power required.

That means, Walker said, companies like Microsoft could develop a means to test software for security flaws. If one is found, they could deploy a downloadable fix to users around the world via the internet in the same day.

Until then, though, stay safe out there.

Core Tor Contributor Leaves Project; Shutting Down Important Tor Nodes

Another blow to the Tor Project: One of the Tor Project's earliest contributors has decided to quit the project and shut down all of the important Tor nodes under his administration.

Lucky Green was part of the Tor Project before the anonymity network was known as TOR. He probably ran one of the first 5 nodes in the TOR network at its inception and managed special nodes inside the anonymity network.

However, Green announced last weekend that "it is no longer appropriate" for him to be part of the Tor Project, whether it is financially or by providing computing resources.

TOR, also known as The Onion Router, is an anonymity network that makes use of a series of nodes and relays to mask its users' traffic and hide their identity by disguising IP addresses and origins.

The TOR network is used by privacy-conscious people, activists, journalists and users from countries with strict censorship

rules.

Alongside a number of fast Tor relays, Green currently runs the Tor node "Tonga," very well known as the "Bridge Authority."

Bridge Authorities are critical network components that have their IP addresses hard-coded in the TOR apps, allowing the anonymity network to prevent various bans and blocking attempts at the ISP level. These nodes also hold critical data regarding other TOR nodes.

Moreover, since all Tor servers added to the anonymity network report back to one of the Bridge Authorities, shutting down the Bridge Authority will need an update to the TOR code.

So, practically, Lucky Green's exit from the Tor Project is a big deal.

Green didn't give the exact reason behind his decision to leave the Tor Project, though he hinted that "recent events" lead to his exit. Here's what he said:

"I feel that I have no reasonable choice left within the bounds of ethics, but to announce the discontinuation of all Tor-related services hosted on every system under my control. I wish the Tor Project nothing but the best moving forward through those difficult times."

Although it is not clear, the recent event could be the result of the turmoil in the Tor Project, which surfaced when Jacob Appelbaum forced to leave the Tor Project amid some serious sexual allegations. Appelbaum strongly denies these accusations, but still decided to step down.

Green is not immediately closing down these crucial TOR nodes. He will shut down these nodes, as well as their associated cryptographic keys, on August 31, giving the Tor developers enough time to update their network.

KickassTorrents Domain Names Seized!
Owner Arrested! Website Goes Down!

The federal authorities have finally arrested the alleged mastermind behind the world's largest and most notorious BitTorrent distribution site KickassTorrents (KAT), the US Justice Department announced on Wednesday.

After The Pirate Bay had suffered copyright infringement hardship, KickassTorrents (KAT) became the biggest and most-used pirate site on the Internet, attracting millions of daily unique visitors.

However, the site appears to be offline after its alleged owner Artem Vaulin, a 30-year-old Ukrainian national was apprehended in Poland today, and the US government has requested his extradition.

Although some proxy sites seem to be currently up and running, its main site, <https://kat.cr>, appears to be down worldwide and most of the other KAT domains, including kickasstorrents.com, kastatic.com, thekat.tv, kat.cr, kickass.cr, kickass.to, kat.ph, have been seized by the authorities.

According to criminal complaint [pdf] filed in US District Court in Chicago, Vaulin faces:

- Two counts of criminal copyright infringement.
- One count of conspiracy to commit criminal copyright infringement.
- One count of conspiracy to commit money laundering.

The United States federal authorities say that KickassTorrent has caused damages of more than \$1 Billion to copyright holders.

Here s what Assistant Attorney General Leslie R. Caldwell stated in a press release issued by the Department of Justice:

"Vaulin is charged with running today s most visited illegal file-sharing website, responsible for unlawfully distributing well over \$1 billion of copyrighted materials. In an effort to evade law enforcement, Vaulin allegedly relied on servers located in countries around the world and moved his domains due to repeated seizures and civil lawsuits. His arrest in Poland, however, demonstrates again that cybercriminals can run, but they cannot hide from justice."

In addition to the KAT s domain names seizure, the Chicago court has also ordered the seizure of bank accounts related to the notorious pirate website, as well as servers located in Chicago, USA, and Canada.

KickassTorrents has been blocked in many countries in the past including the UK, Ireland, Italy, Denmark, Belgium, and Malaysia.

How KickassTorrents Team Responds to Copyright Infringement Complaints:

According to the court affidavit, Vaulin claimed that his BitTorrent site KAT did not violate the Digital Millennium Copyright Act (DMCA), but they did.

When any film studio filed a notice-and-takedown for a potential DMCA violation, KAT responds like this:

KickassTorrents

Here s How Authorities get their hands on the KAT Owner:

An IRS agent went undercover to buy and advertise on the notorious site for five days, at the price of \$300 per day.

This revealed Vaulin's e-mail account, trim@me.com, hosted by Apple, who provided a copy of his email inbox to authorities after being requested for help.

With the help of the Mutual Legal Assistance Treaty (MLAT), US officials were easily able to obtain information about the KAT's operations from the bank accounts used to collect payments for advertisement slots.

"Records provided by Apple showed that tirm@me.com conducted an iTunes transaction using IP Address 109.86.226.203 on or about July 31, 2015," reads the complaint. "The same IP Address was used on the same day to login into the KAT Facebook."

An analysis of this account later disclosed the presence of KAT's servers in Chicago.

After the arrest of KickassTorrent's owner and seizure of primary KAT domain, a mirror of the original KAT website with identical design has been made available online in less than 24 hours.

The mirror for KAT website has been hosted by another popular torrent site, IsoHunt, at kickasstorrents.website, hosting everything from the last year, to year-and-a-half.

However, the mirror lacks forums, community, and support of KAT the biggest draws to the original KAT website.

KickassTorrents Resurfaces Online, As All Piracy Sites Do

The alleged founder and operator of the most popular torrenting site in the world, KickassTorrents (KAT), has been apprehended by the US authorities and the site's domains seized. However, as we learned with the campaign to stop The Pirate Bay, you just can't keep a good pirate site down. We've already spotted at least two clones of KAT, including one created by IsoHunt (KickassTorrents.website a fairly limited mirror), and a second located at KAT.am.

"hosted on multiple cloud servers to prevent blockade."

A statement emailed to The Verge from the creators of KAT.am claims the site is "hosted on multiple cloud servers to prevent blockade, and the hosting information is well hidden behind Cloudflare." The anonymous contact said they'd improved on the original KickassTorrents site by adding a mobile version, and noted (with the original, ambiguous, wording retained here) that the site "will have the complete torrent database of KAT, including the comments, user information intact." We're not sure whether that means KAT.am has this complete log of comments, etc., or will have it at some point in the future. At the time of writing this article, access to KAT.am was spotty.

All this shows what we already knew: that you can't completely remove piracy sites from the internet, but you can discourage those who want to run them. The Department of Justice's statement on KAT's alleged founder and operator, 30-year-old Artem Vaulin, charges him with "unlawfully distributing well over \$1 billion of copyrighted materials," and claims that he collected roughly \$16 million in advertising revenue a year. KickassTorrents may be back (sort of), but Vaulin's future is about to get a lot tougher.

That's A Clever Hack! How Anyone Could

Make Money from Google and Microsoft

Smart hackers could exploit a loophole that could allow them to steal a significant amount of cash from Google, Microsoft and Instagram using a Premium rate phone number.

Security researcher Arne Swinnen from Belgium has discovered an ingenious way to steal money from big tech companies like Google, Microsoft, and Instagram using their two-factor authentication (2FA) voice-based token distribution systems.

Swinnen argues that any attacker with malicious intent could create fake Google, Microsoft or Instagram accounts, as well as premium phone services, and then link them together.

The attacker could then request 2FA voice-based tokens for all fake accounts using an automated scripts, placing legitimate phone calls to his service to earn him quite a nice profit.

Swinnen created accounts on Google, Microsoft Office 365 and Instagram and then tied them to a premium phone number instead of a regular one.

As a result, whenever one of these three services would call the account's phone number to send the user their account access code, the premium number would register an incoming call and bill the companies.

"They all offer services to supply users with a token via a computer-voiced phone call, but neglected to properly verify whether supplied phone numbers were legitimate non-premium numbers," Swinnen says in his blog.

"This allowed a dedicated attacker to steal thousands of EUR/USD/GBP/... Microsoft was exceptionally vulnerable to mass exploitation by supporting virtually unlimited concurrent calls to one premium number."

Although the Swinnen reported the loophole to all the three companies, he calculated that he could have stolen 432,000 per year from Google, 669,000 per year from Microsoft and 2,066,000 per year from Instagram.

You can learn more technical details about the hack in Swinnen's blog post.

Although no customer data was being put at risk through his hack, Facebook (who owns Instagram) and Microsoft rewarded Swinnen with \$2000 and \$500 via their bug bounty programs, while Google mentioned his name in the company's Hall of Fame.

Apple MacOS Sierra Beta

Apple has gone public with the beta version of macOS Sierra, the new version of the Mac operating system formerly known as OS X. Anyone with an Apple ID can sign up and get a sense of how Sierra

will be different from the current version, OS X El Capitan. As with Apple's previous public betas, you'll get almost all the features, but not all the speed and stability you can expect when Sierra is released as a free upgrade sometime in the fall. Should you download the macOS Sierra beta right now? It really depends on how much risk you can tolerate. It's certainly not for mission-critical business systems, but the average early adopter will find it a worthy download. If it sounds right for you, you can get it at beta.apple.com. Still not sure? Don't worry: I downloaded the beta and have worked with it extensively. Read on for the details.

Here's a quick summary of what Sierra offers. Like all recent OS X versions, Sierra is a smooth update, with a flat learning curve and a host of clever new features slotted into a familiar, easy-to-use environment. As in Windows 10 with Cortana, Apple has built digital assistant Siri into macOS Sierra, responding to spoken (but not written) questions and coming up with movie times, sports scores, stock prices, files on your disk, and laconic answers to questions about the meaning of life. You can drag and drop images and Web locations from Siri's answers into anything else or use a button in Siri's window to pin an answer to the Sierra Notifications Center. You can also tell Siri to put your Mac to sleep.

Cloud integration includes an option to store old photos and documents on the Web to save disk space. Sierra recommends that you choose an option that saves to the cloud all the files in your Documents folder or on your Desktop and downloads them to any other Mac you use. This option quickly used up my free iCloud Drive storage space, so I turned it off rather than get extra space by paying a monthly fee. Windows' equivalent online storage and syncing service OneDrive, Free at Microsoft by comparison, works on all major platforms (including Apple platforms), whereas iCloud is restricted to Apple ecosystem devices.

As always, Apple has tightened integration with the rest of the Apple ecosystem, so you can share the clipboard with your iPhone or iPad or unlock a Mac simply by wearing an Apple Watch within three meters of your Mac laptop or desktop. Apple Pay will come to Safari, so you'll be able to make a purchase on your Mac and pay by authenticating yourself via the Apple Watch or touch ID on your phone. (This is one of the few features that won't go live until after Sierra is officially released.)

You've probably heard about the gee-whiz features in Sierra that Apple demonstrated at its Developer Conference in June. Picture-in-picture is available from almost any video, including anything on YouTube. A two-finger-click on a video selects PIP mode from a pop-up menu; with YouTube, though, you'll need to click twice, once to bring up the familiar YouTube pop-up menu and then again to bring up Sierra's PIP menu.

Maps, Mail, TextEdit, and other apps now get the same tabbed interface already available in the Finder and Safari and any existing third-party application that now opens multiple windows can also use tabs. The Dock control panel in System Preferences lets you decide whether your apps should use tabs or new windows by default. In one of Sierra's many subtle enhancements, when you click and hold the plus-sign button in Safari that normally opens a new tab, you get a pop-up menu of recently closed tabs. Under

the name of a folder icon in the Finder or the Desktop, a subtitle shows the number of items in the folder. Icons for images have a subtitle showing the dimension of the picture. Icons for files show the file size.

Other under-the-hood improvements include the return of RAID support in Disk Utility, an option to remove items from the Trash after thirty days, and a menu called Reduce Clutter that lets you find large and unused files and delete them. You'll also be prompted to delete the installers for previous OS X installations, saving many gigabytes of space. I haven't tested this, but Apple claims that Sierra uses a more efficient method of storing Mail attachments so that you'll save space by upgrading.

Sierra also features the first glimpse of the first new major file system update in more than 30 years. The new system, which is called the APFS, promises better and faster storage features, as well as improved encryption features. There's not much you can do with it yet; most of the new features probably won't be implemented for a while, possibly to coincide with an update to iOS and a new batch of mobile devices to go with it. Still, the new system is already in place.

I don't personally expect to use a few features that loom large in Apple's publicity materials for Sierra. Photos has a Memories feature that automatically builds animated videos from photos and videos that the app decides are related to each other, but I don't want an algorithm sorting out my memories for me.

More useful features include one that creates photo albums sorted by the people in the pictures, selected via face recognition, and one that shows you your photos on a world map, which each photo linked to the place where it was taken.

In Messages, emoji now appear at three times their earlier size, so you don't have to wonder whether your friend is smiling or frowning. A Tapback feature lets you tap on a menu of heart, thumbs-up, and other icons to respond to a message, bringing us all closer to a world without any words at all.

Some new security features are probably worth having, but experienced users may find them annoying. The old option in System Preferences that allowed you to open apps downloaded from anywhere, whether or not they were written by registered developers, has disappeared. (You can make it reappear by entering an obscure terminal command: "sudo spctl --master-disable" which you may not want to do, because it may compromise other security features.) Fortunately, this is a minor inconvenience, because you can still Ctrl-click a downloaded app and choose Open from the pop-up menu.

A more complicated and puzzling feature called Gatekeeper Path Randomization will prevent some existing apps from working correctly until you perform the unintuitive step of moving the app out of the folder into which you downloaded it. You can immediately move it back into the same folder, but you have to move it once. The problem seems to occur with downloaded apps that access external files. I had to rewrite a few of the AppleScript-based apps that I've written over the years so that

they detect the problem and prompt the user to move the app. If you come across an app that seems to have stopped working under Sierra, try the trick of moving the app out of its folder and back in again, and it may start working again.

One general point about both macOS Sierra and Windows 10. As these operating systems mature, I've learned to rely on their built-in features instead of third-party features from Google and others that I used to rely on. Recently, I wanted to visit a gardening store called the Green Thumb in rural Jonesboro, Maine. I made the mistake of asking directions first from Google Maps which sent me on a wild goose chase to a dirt road in the middle of nowhere. When I tried again with Apple Maps, I was led to the exact location and Bing Maps in Windows 10 also got the location right. I later had similar experiences with other locations and routes. A few years ago, it looked as if Apple's and Microsoft's built-in services would be left behind by Google's Web services, but at least in some instances, it hasn't worked out that way.

Sierra is compatible with all Macs released in 2010 or later and MacBook and iMac models from late 2009. I found the public beta reliable and speedy enough, but with a few glitches for example, slow performance in Sierra's Safari with some sites that work smoothly in El Capitan. I found at least one old app (an AppleScript helper app called AsObjC Runner) that Sierra refused to open; there are probably others.

I'm impressed with Sierra's combination of consistency and innovation. It's exactly the kind of OS update that Apple specializes in and that Microsoft may finally be learning to achieve in its frequent incremental updates of Windows 10. We'll find out with the imminent Windows 10 Anniversary Edition update. I keep a Mac laptop and a Windows desktop running almost all the time, and Apple's OS is the reason I sit down most often to the Mac. When the final version of macOS Sierra is available, I'll give the operating system a full review and score. In the meantime for more details, check out 10 Things You Need to Know about macOS Sierra.

Windows 10 Gets One Last, Desperate Nagware Update

Today is Wednesday, July 20th. Microsoft's free upgrade offer for Windows 10 expires in nine days. Chances are, you already know that. Chances also are you've already decided whether or not you're going to spring for that upgrade before the window closes forever.

BUT JUST IN CASE YOU HAVEN'T: Microsoft has one more nagware update for you. As InfoWorld reports, this is an update to the previous full-screen nagware update. Now you get a countdown clock (the exclamation point is free) and a yellow exclamation point in the system tray, just in case you haven't noticed the unusual Windows icon that's been yammering for attention and trying to stealth-upgrade your system for the past 12 months.

Other new features include a hamburger menu. And speaking of hamburger menus

The image above is from an old computer game called Space Quest 3. The point of the joke, of course, is that you can't actually opt out of the option to buy additional food. Microsoft, similarly, can't bring itself to accept that a user might actually have declined to upgrade to Windows 10.

Here's what really confuses me, though. Over the past 12 months, Microsoft has steadily amped up its Windows 10 push. It changed the free upgrade from an optional update to a recommended update. It made the upgrade notifications pushier. It even took a page from malware authors and upgraded people whether they actually wanted the operating system or not. Twelve months after launch, I'd be willing to bet that there are only four groups of Windows users not using Windows 10:

- People who disabled automatic updates long ago and have never been offered the OS.

- People who use a third-party app, like GWX Control Panel, to turn off GWX.exe.

- People who keep refusing the upgrade manually.

- People who can't upgrade due to enterprise restrictions or compatibility issues.

Technically, yes, there will be a handful of people who have been planning to get around to upgrading for a year, never quite managed it, and will now lose that option. The vast majority of non-users, however, will fall into one of the four groups above. This means that Microsoft's Upgrade Now! policy is overwhelmingly targeting people who either won't upgrade or can't upgrade. In short, this does nothing but piss people off.

What's disturbing about all this is that Microsoft can't seem to stop. It's like watching a meth-addicted rat punching levers in a Skinner box, except in this case the rat only gets its fix if it hits another download milestone. Someone, somewhere, only gets to eat today if Microsoft manages to convince another 5,000 people to install Windows 10. Really, that's the only thing that makes sense at this point. A year after Windows 10 launched, we're nearly at the end of this incredibly annoying journey and Microsoft can't resist cavorting around the finish line, punching people in the head and trying to set their pants on fire.

Microsoft Given 3 Months To Fix Windows 10 Security and Privacy

France's privacy watchdog has declared that Windows 10 is gobbling up too much data and snooping on users' browsing without their consent.

The National Data Protection Commission (CNIL) has given Microsoft 3 months to get its act together and to get compliant with the French Data Protection Act.

That means that Microsoft has to stop collecting excessive data and tracking browsing by users without their consent. CNIL Director Isabelle Falque-Pierrotin is also demanding that Microsoft take satisfactory measures to ensure the security and

confidentiality of user data.

The CNIL sent Microsoft a formal notice on 30 June.

The commission didn't make that letter public until Wednesday.

The CNIL has been concerned about Windows 10 since Microsoft released it a year ago.

The new operating system's release sparked a storm of controversy over privacy: Concerns have risen over the Wi-Fi password sharing feature, Microsoft's plans to keep people from running counterfeit software, the inability to opt out of security updates, weekly dossiers sent to parents on their kids' online activity, and the fact that Windows 10 by default shares a lot of your personal information—contacts, calendar details, text and touch input, location data, and more—with Microsoft's servers.

Amid the past year's furor, the CNIL carried out its own tests of the operating system to see what was really going on and whether Windows 10 was compliant with the Act.

It conducted a total of 7 tests in April and June. As well, the watchdog questioned Microsoft about its privacy policy.

Those tests revealed many failures, the CNIL said, including

Irrelevant or excessive data collected: Microsoft is collecting diagnostic and usage data via its telemetry service, which uses such data, among other things, to identify problems and to improve products. But that also includes what the CNIL calls extraneous data, including data on all the apps downloaded and installed on the system by a user and the time spent on each one: data that's not necessary for operation of the service.

Lack of security: Microsoft doesn't limit the number of attempts that can be made to enter a 4-character PIN for authentication with online services, including to access a user's Microsoft account, which lists sensitive data such as store purchases and payment details.

Lack of individual consent: An advertising ID is activated by default on installation, without users' consent, enabling Windows apps and other parties' apps to monitor user browsing and to target advertising at users.

Lack of information and no option to block cookies: Microsoft's sticking advertising cookies on users' terminals without properly informing them in advance or enabling them to opt out.

Data still being transferred outside EU on a safe harbour basis: Microsoft's transferring account holders' personal data to the US on a safe harbor basis, in spite of the Safe Harbor agreement having been ruled invalid by the top EU court in October 2015.

Microsoft has until 30 September to comply with the CNIL's demands. If it fails to do so, it could face a fine of up to 1.5 million (US\$1.66 million) for the poor PIN security, and lesser fines for the other measures, the commission said in its formal notice to the company.

The CNIL said that it's not the only data protection authority in

Europe that s concerned about Windows 10 privacy and security.
Investigations by other watchdogs are ongoing.

The CNIL also said that it decided to make the notice public because of the seriousness of the privacy/security breaches and the fact that they affect so many French users: the commission said that there are more than 10 million users in French territory.

Microsoft isn t the first US tech company to get one of these notices from the CNIL: In June 2015, it ordered Google to scrub search globally in right to be forgotten requests.

In February, it also gave Facebook 3 months to stop tracking non-users in France.

In a statement provided to Reuters, Microsoft vice president and deputy general counsel David Heiner said that the company will work with CNIL to develop solutions that it will find acceptable.

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